



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/573,198

03/24/2006

Kazunori Tanaka

Q93230

1919

23373 7590 11/18/2008  
SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

PHAN, THIEM D

ART UNIT

PAPER NUMBER

3729

MAIL DATE

DELIVERY MODE

11/18/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/573,198	TANAKA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	THIEM PHAN	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 13-23 is/are pending in the application.
- 4a) Of the above claim(s) 19-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-18, 22, 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. The amendment filed on 08/19/08 has been fully considered and made of record.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Applicants are requested to specifically delineate what is included and excluded by the term "... is uniform thickness." and the like language. Throughout the specification, applicants have failed to specifically define them.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The claimed language "...is uniform thickness." is confusing and unclear because the specification and the drawings disclose the insulation layer (Fig. 7, 55) with the groove area insulation (56) that has a different thickness from the insulation layer. This language not only is

Art Unit: 3729

held to be vague and indefinite, the metes and bounds or scope of the claimed subject matter cannot be determined in the disclosure.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 13-18, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denki (JP60-18648) in view of Kobayashi et al (US 4,400,639).

**Regarding claim 13**, Denki teaches a process of insulating a stator slot in a rotating electric machine, comprising:

- preparing a stator core having plural slots (Fig. 2, 7) in an inner peripheral surface, each slot of the plural slots has a slot peripheral wall and slot opening that opens in the inner peripheral surface, the slot peripheral wall of each slot has a slot bottom wall and a pair of slot side walls opposing to each other and continuing to the slot bottom wall;
- forming an electrical insulation material (Fig. 8, 8) on the slot peripheral wall of each slot to form an insulation coating, except for spraying a powder of an electrical insulation material or painting a layer of insulation material;

Art Unit: 3729

- cutting into the insulation coating on the pair of slot side walls at vicinity of the slot opening to form a pair of holding grooves (Fig. 8, 12) opposing each other;
- disposing a stator winding having plural winding member such that each winding member (Fig. 2, 2) of the stator winding is inserted inside each slot; and
- inserting an electrical insulation member (Fig. 8, 6) between the holding grooves for closing the slot opening, wherein the insulation coating is formed over continuously from the slot bottom wall to the pair of slot side walls and groove walls of the holding grooves are formed in the slot side walls.

Kobayashi et al teach a process of manufacturing a rotor by painting a layer of insulating material on the inner peripheral surface of the slot (Col. 2, lines 30-32), in order to avoid any dielectric breakdown (Col. 2, lines 35-38).

It would be obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Denki, by applying the painted insulation, as taught by Kobayashi et al, in order to tightly fit the molding shape of the slot.

**Regarding claim 14**, Denki teaches that the holding grooves are formed so that a depth of each of the holding grooves (Fig. 8, 12) is smaller than a thickness of the insulation coating (8).

**Regarding claim 15**, Denki teaches that the holding grooves are formed so that each holding groove (Fig. 8, 12) has a groove bottom wall and a pair of groove side walls opposing to

Art Unit: 3729

each other, and the groove bottom wall and the pair of groove side walls are formed in the insulation coating.

**Regarding claim 16**, Denki teaches that the pair of groove side walls is formed so that a clearance is formed between one of groove (Fig. 8, 12) side walls and the electrical insulation member (6).

**Regarding claim 17**, Denki teaches that each groove bottom wall is formed so that a clearance is formed between the groove (Fig. 8, 12) bottom wall and the electrical insulation member (6).

**Regarding claim 18**, Denki teaches that each pair of groove side walls of the holding grooves (Fig. 8, 12) are formed so that the inner one of the pair of groove side walls positioned on an inner side of each slot is formed to tilt in a depth direction of each slot, due to its insulated flexibility.

**Regarding claim 22**, Denki teaches that the depth of each of the holding grooves (Fig. 8, 12) is defined in the direction of the thickness of the insulation coating.

**Regarding claim 23**, as best understood, Denki teaches the insulation coating is uniform in thickness inside the slot.

### ***Response to Arguments***

8. Applicants' arguments filed on 8/19/08 have been fully considered but they are not persuasive for the following reasons:

Art Unit: 3729

Applicants assert that Kobiyashi et al do not teach nor suggest the limitation of spraying an insulation layer on the side walls of the slots, therefore the rejection by Denki in view of Kobayashi et al should be reversed for patentability (Remarks, pages 8 & 9). In response to these remarks, the examiner wants to show that the insulation by spraying is not a critical step in the claimed invention as it is well known in the art and the applicants indicate also in page 15, paragraph 30 of the specification that the resin insulation spraying technique is a known technique, not worth for disclosure. In the meantime, Kobayashi et al teach the insulation coating with paint on the inner peripheral of the slots (Col. 2, lines 30-32) with resin and such inner peripheral paint coating of the slot can be construed as a well known spray technique to efficiently paint-coat all the inner peripheral of the slots, especially for small sized motors (Col. 1, line 39) where the slots of much smaller size than the core itself can be simply and effectively paint-coated by a spray technique only. Therefore, Kobiyashi et al at a minimum teach the claimed limitation.

Applicants agree that there is a rugged groove in the insulation layer (Remarks, page 9, last paragraph) while Denki in view of Kobayashi et al teach the paint coating of the insulation layer and it would be obvious to cut or grind on the finished coated insulation to form a groove. Therefore, Denki in view of Kobayashi et al teach the claimed limitation of cutting to form the groove.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Art Unit: 3729

Applicants' amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 571-272-4568. The examiner can normally be reached on M - F, 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications



Art Unit: 3729

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phan Thiem/  
Primary Examiner, Art Unit 3729

November 16, 2008